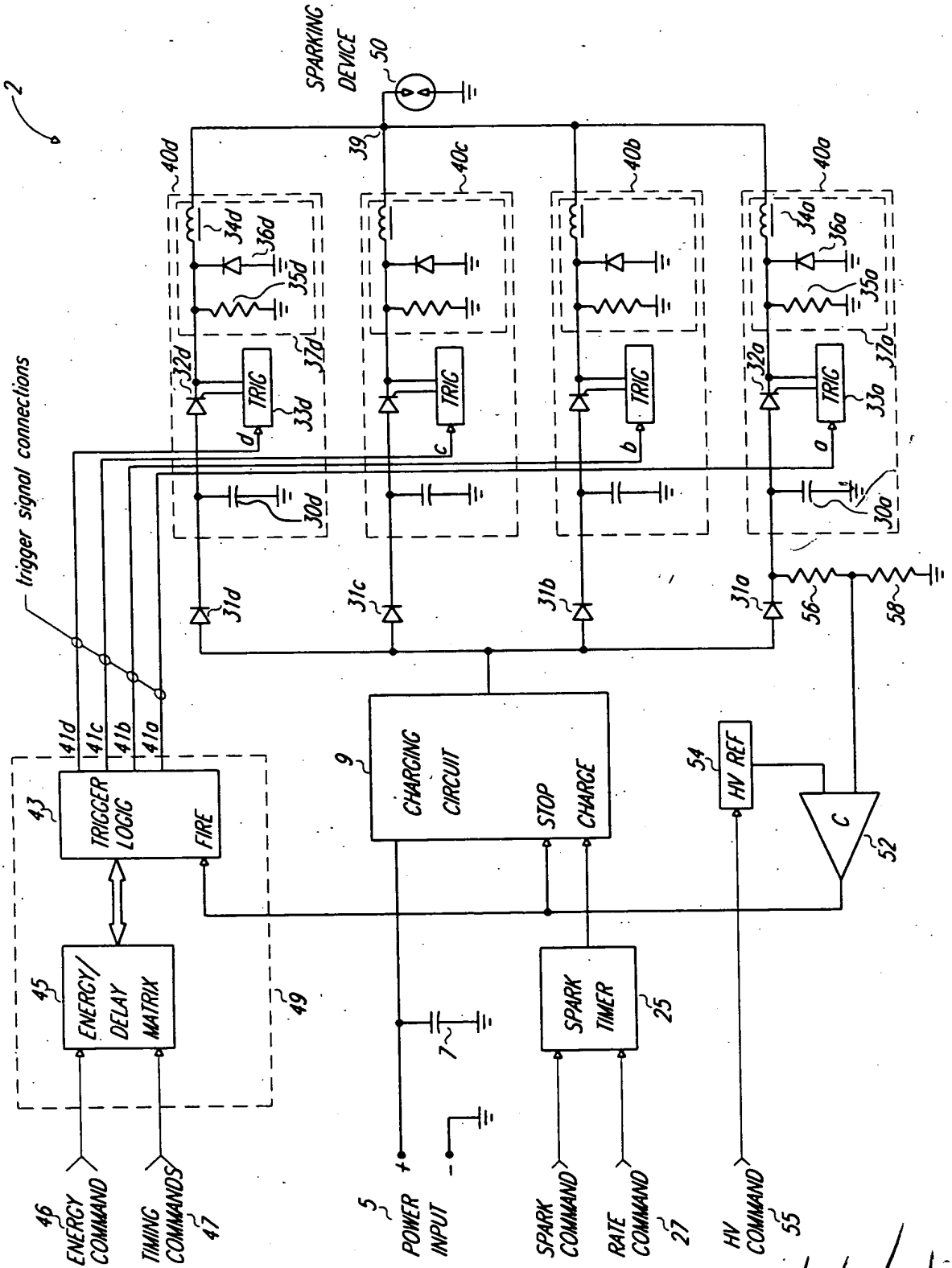

FIGURE 1

14 pages

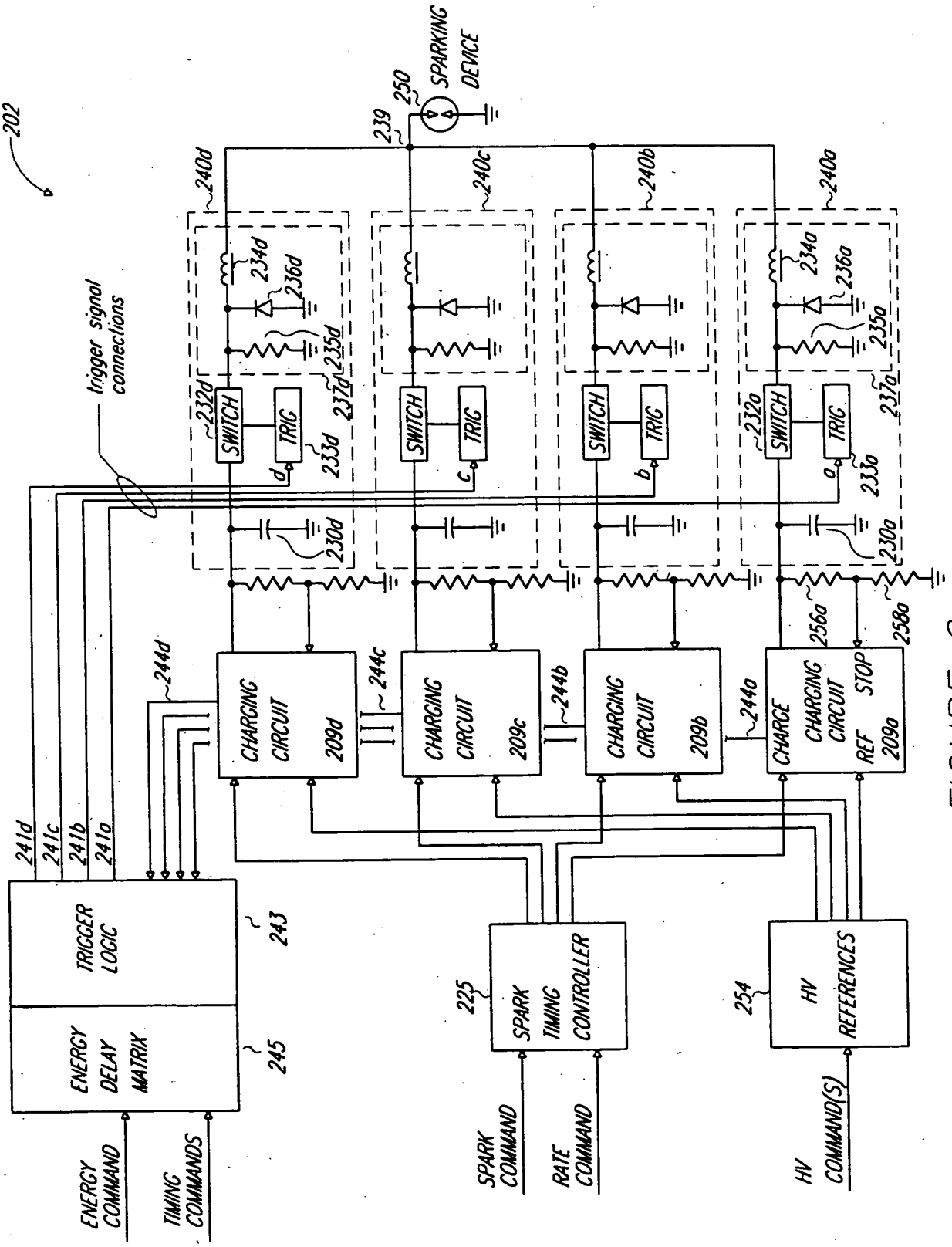
202
239
250
SPARKING DEVICE
240d
240c
240b
240a
trigger signal connections
234d
236d
235d
232d
SWITCH
TRIG
233d
237d
d
c
b
a
234a
236a
235a
232a
233a
237a
230d
230a
256a
258a
244d
244c
244b
244a
CHARGING CIRCUIT 209d
CHARGING CIRCUIT 209c
CHARGING CIRCUIT 209b
CHARGE CHARGING CIRCUIT REF STOP 209a
241d
241c
241b
241a
TRIGGER LOGIC
243
ENERGY DELAY MATRIX
245
225
SPARK TIMING CONTROLLER
254
HV REFERENCES
ENERGY COMMAND
TIMING COMMANDS
SPARK COMMAND
RATE COMMAND
HV COMMAND(S)

FIGURE 2

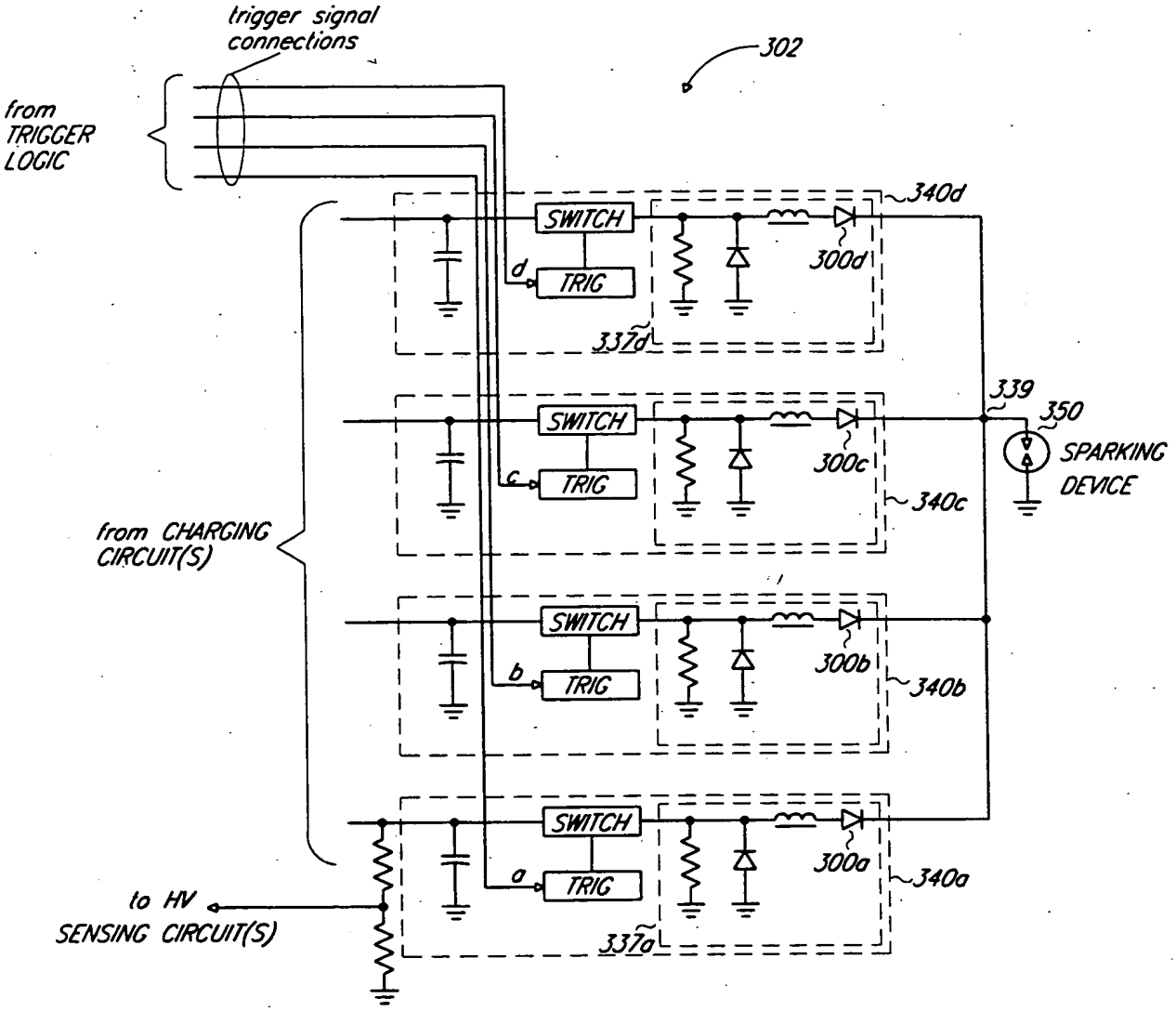
trigger signal connections
302
from TRIGGER LOGIC
340d
SWITCH
TRIG
d
300d
337d
339
350
SPARKING DEVICE
SWITCH
TRIG
c
300c
340c
from CHARGING CIRCUIT(S)
SWITCH
TRIG
b
300b
340b
SWITCH
TRIG
a
300a
340a
to HV SENSING CIRCUIT(S)
337a

FIGURE 3

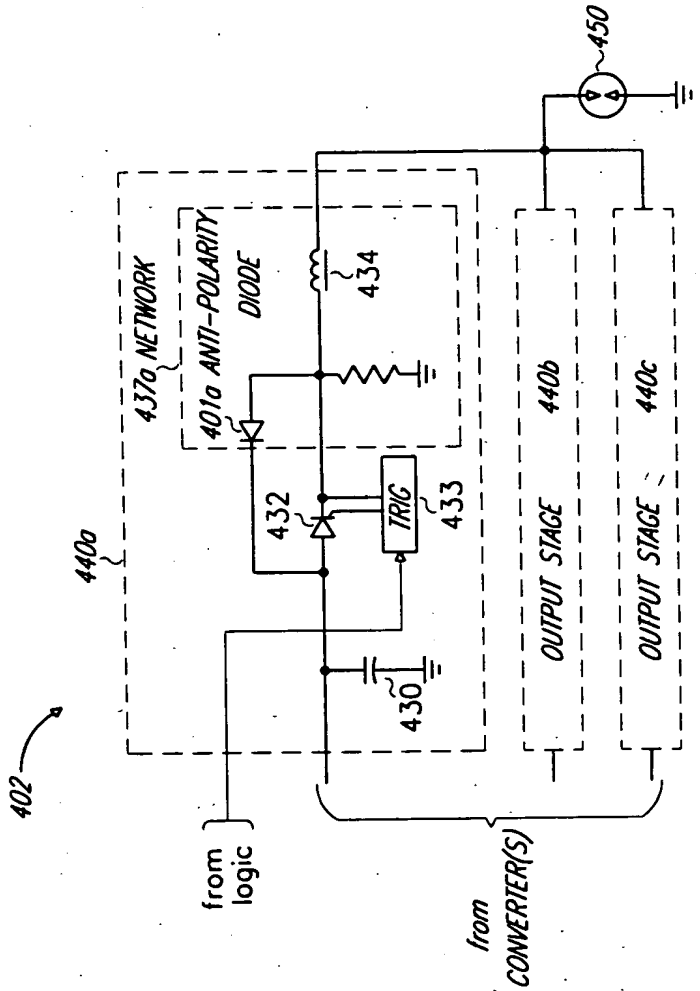
450
437a NETWORK
401a ANTI-POLARITY DIODE
434
432
TRIG
433
440a
430
OUTPUT STAGE 440b
OUTPUT STAGE 440c
402
from logic
from CONVERTER(S)

FIGURE 4

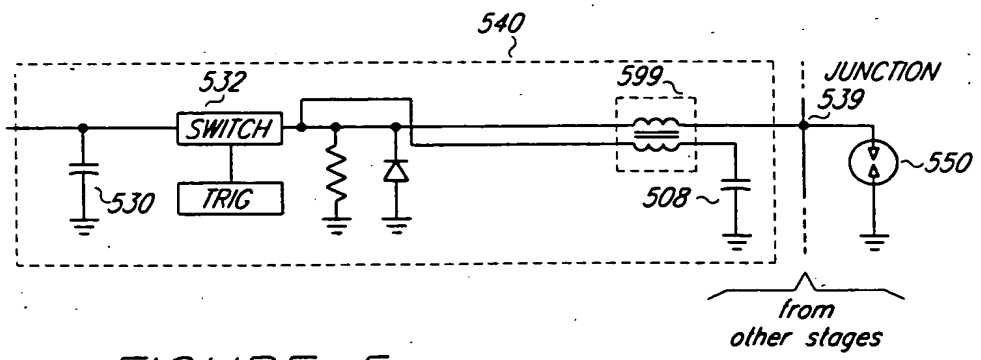

FIGURE 5a

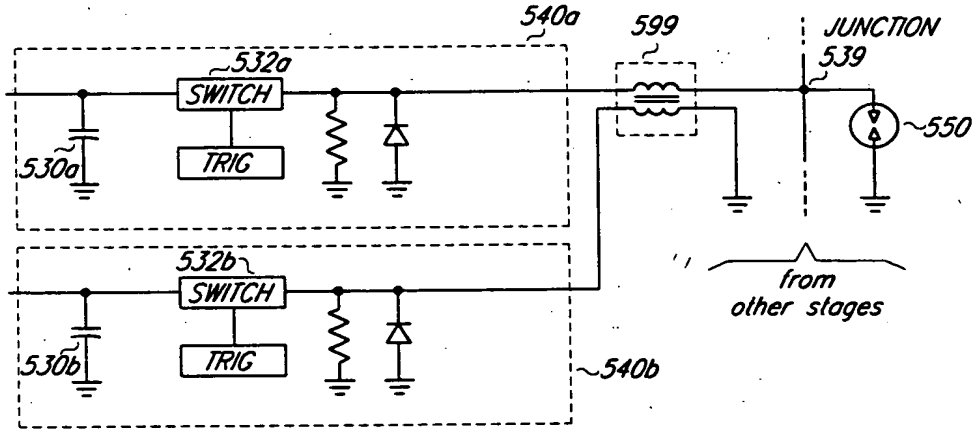

FIGURE 5b

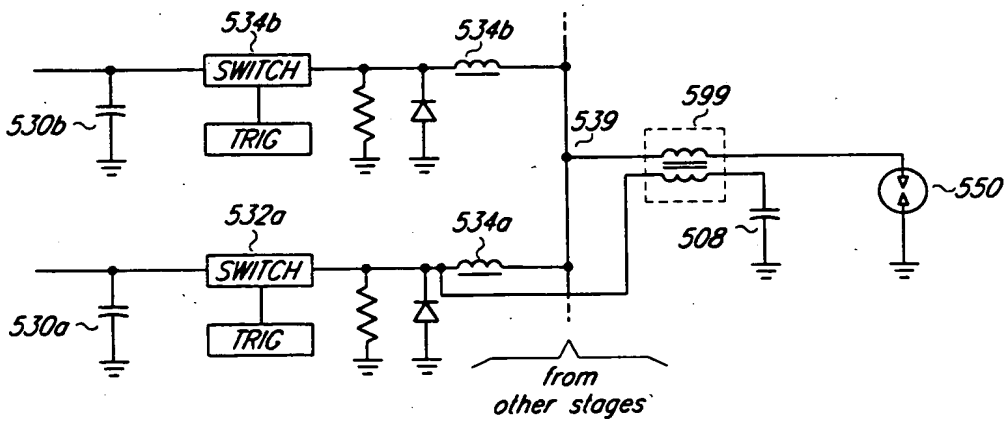

FIGURE 5c

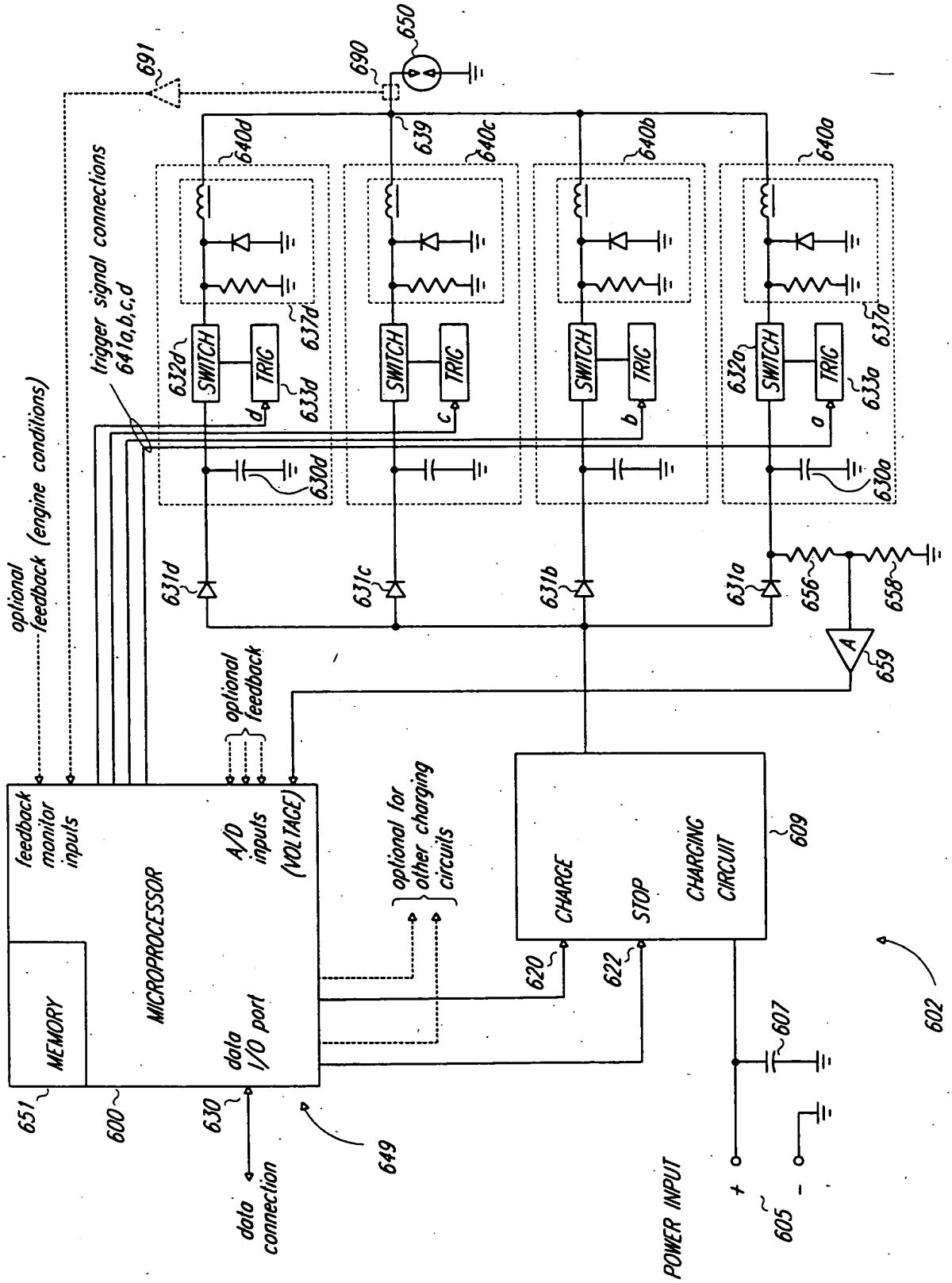
691
690
650
639
640d
640c
640b
640a
trigger signal connections
641a,b,c,d
optional feedback (engine conditions)
632d
SWITCH
TRIC
633d
637d
630d
631d
631c
631b
631a
656
658
659
A
optional feedback
feedback monitor inputs
A/D inputs (VOLTAGE)
MICROPROCESSOR
MEMORY
data I/O port
optional for other charging circuits
CHARGE
STOP
CHARGING CIRCUIT
609
620
622
607
602
651
600
630
649
data connection
POWER INPUT
605
+
-

FIGURE 6

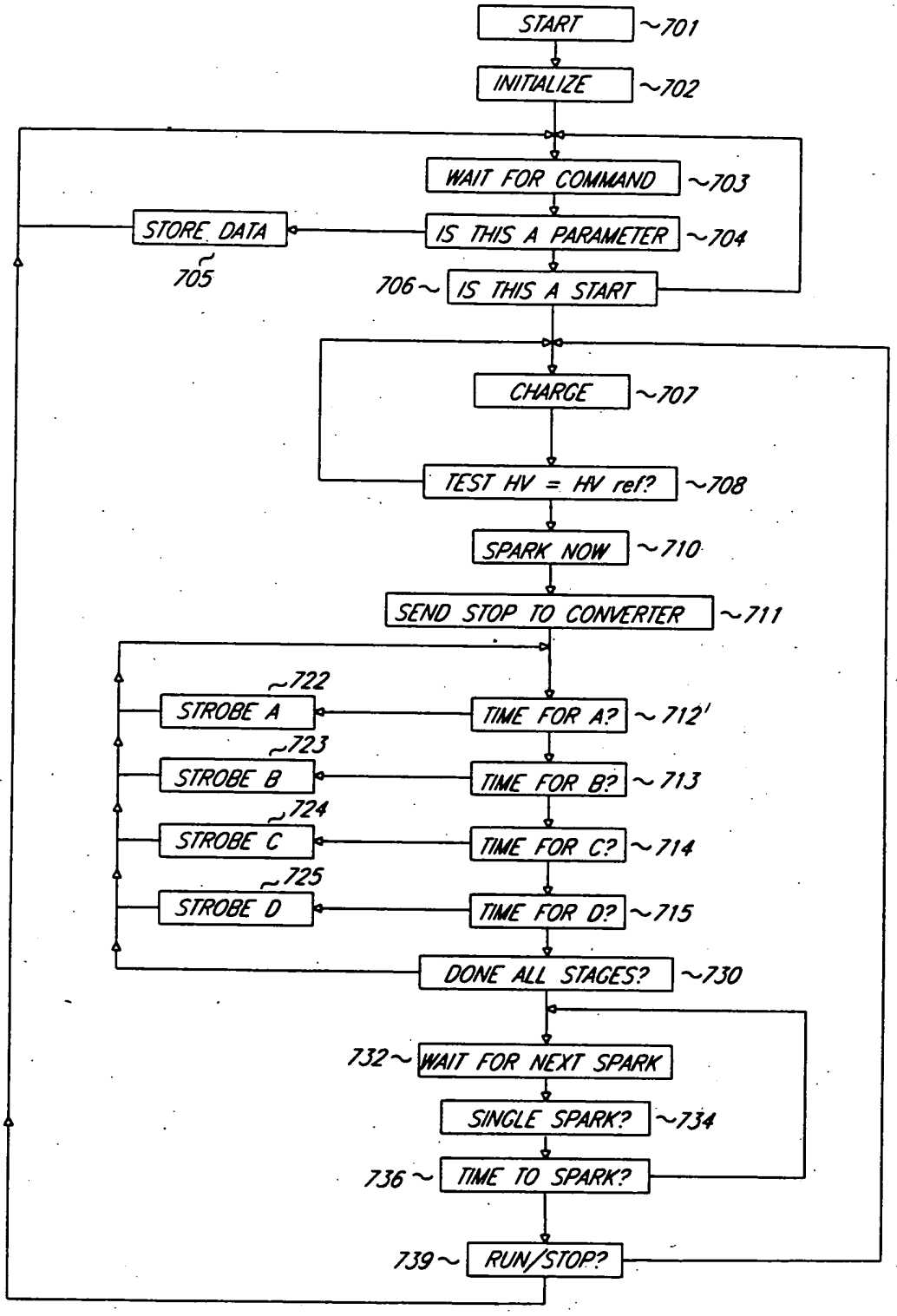

FIGURE 7 FLOWCHART

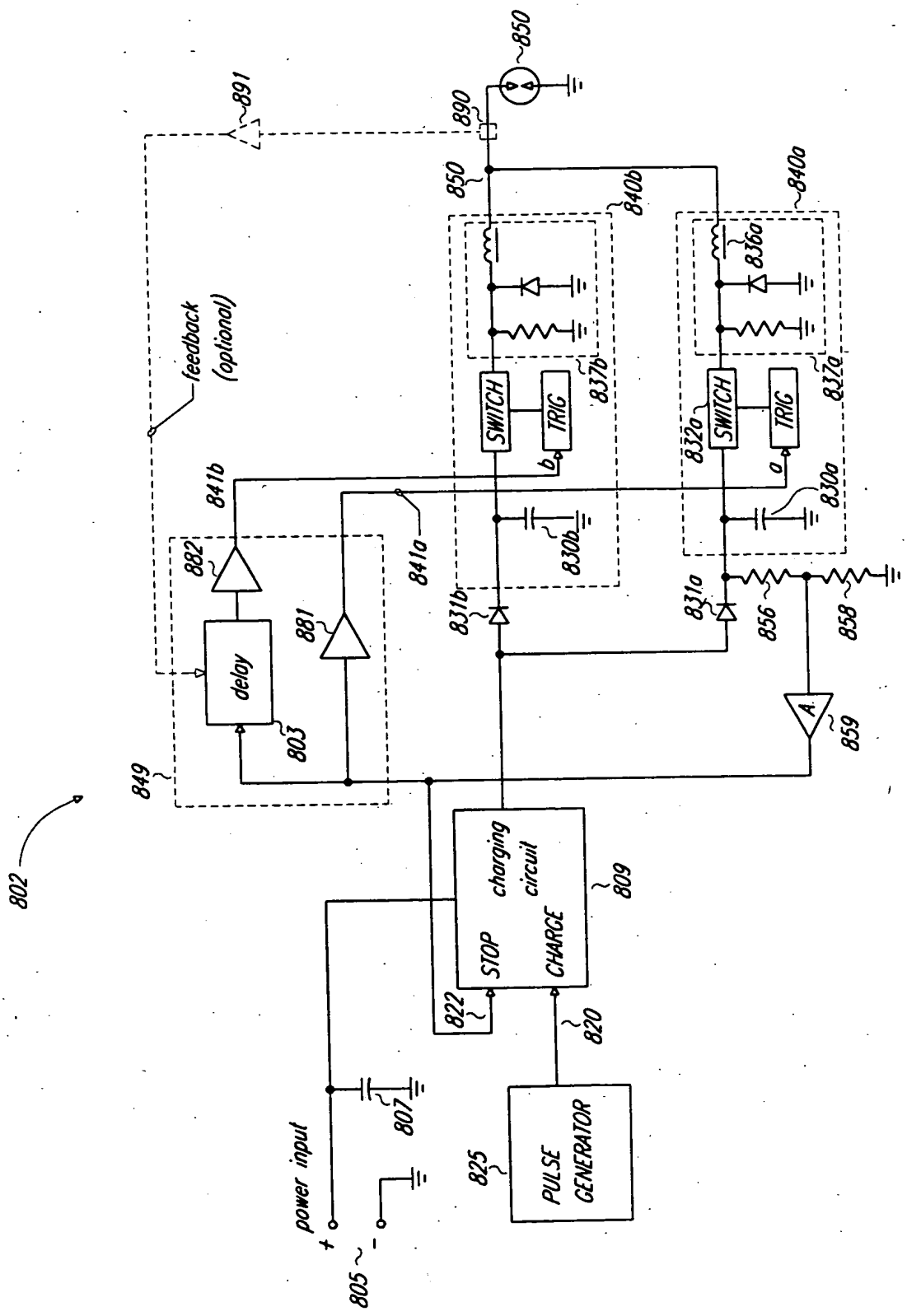
802
power input
+
-
805
807
825
PULSE GENERATOR
820
822
STOP
CHARGE
charging circuit
809
849
delay
803
882
881
841a
841b
feedback (optional)
891
890
850
840b
840a
836a
837b
837a
SWITCH
TRIG
832a
830a
830b
831b
831a
856
858
859
A

FIGURE 8

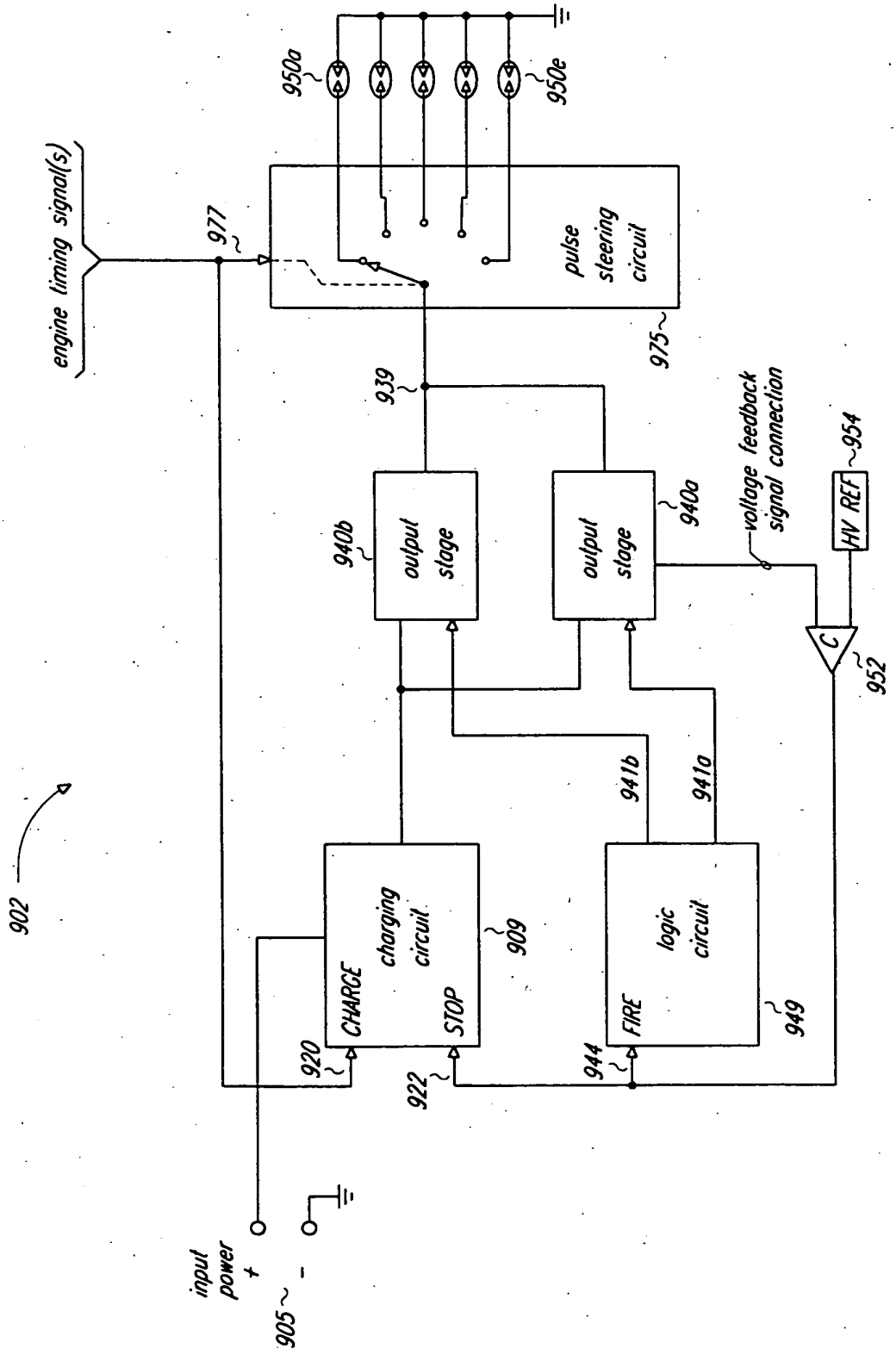
950a
950e
engine timing signal(s)
977
pulse steering circuit
975
939
940b
output stage
output stage
940a
voltage feedback signal connection
954
HV REF
952
941b
941a
902
charging circuit
909
logic circuit
949
CHARGE
STOP
FIRE
920
922
944
input power
+
-
905

FIGURE 9

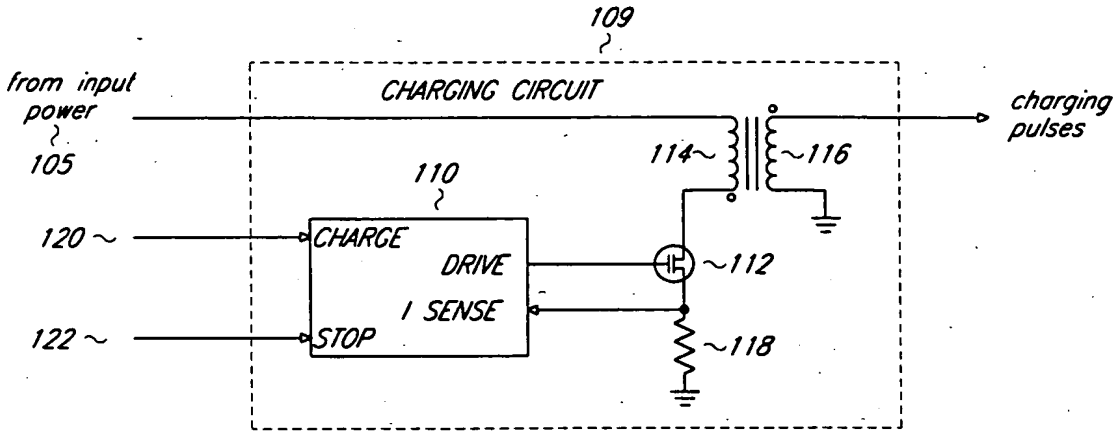

FIGURE 10a

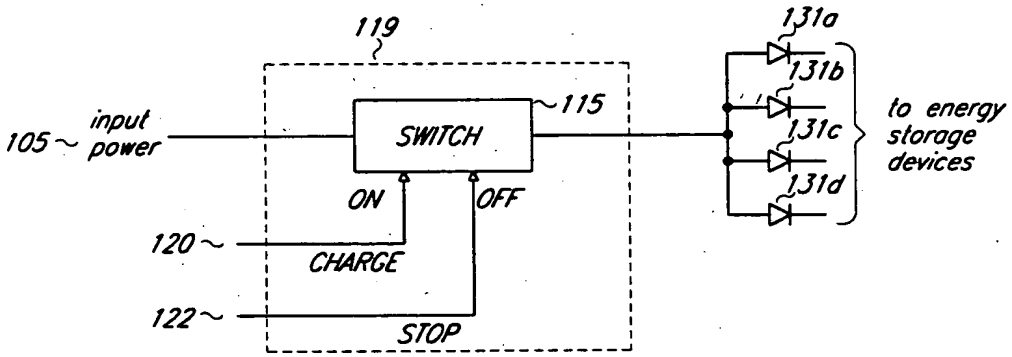

FIGURE 10b

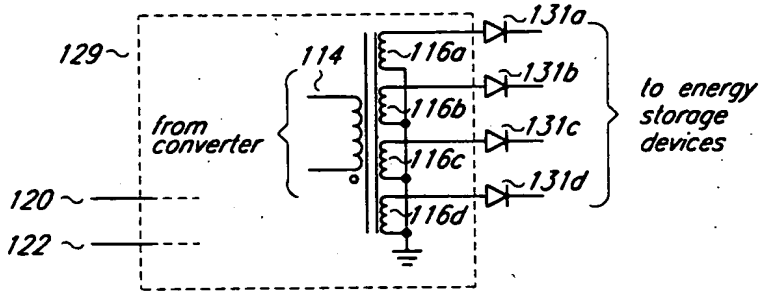

FIGURE 10c

09/14/2005 FRI 15:09 [TX/RX NO 6060] 010